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August 21, 2005

GeoInsight Project 2491-001

Frank Gardner
U.S. Environmental Protection Agency
One Congress Street, Suite 1100-HBR
Boston, Massachusetts 02114-2023

RE: Fourteenth Progress Report
Administrative Order on Consent for Removal Action
Wells G&H Superfund Site
Olympia Nominee Trust Property
60 Olympia Avenue
Woburn, Massachusetts
CERCLA Docket # 01-2004-0059

Dear Mr. Gardner:

GeoInsight, Inc. (GeoInsight) prepared this progress report to describe activities completed at 60 Olympia Avenue in Woburn, Massachusetts (the Site) during the fourteenth progress report period (July 21, 2005 to August 21, 2005). This letter was prepared in accordance with the June 21, 2004 United States Environmental Protection Agency (USEPA) Administrative Order on Consent for Removal Action (CERCLA Docket No. 01-2004-0059; the "Order"). The letter was prepared by GeoInsight on behalf of Olympia Nominee Trust, current owner of the 60 Olympia Avenue property.

In addition, this progress report includes a summary of the August 3, 2005 Site meeting with representatives of the USEPA to review in-situ chemical oxidation (ISCO) approaches for this Site and discuss the recent identification and subsequent evaluation and recovery actions associated with dense non-aqueous phase liquid (DNAPL) observed in several injection wells within the treatment cell.

Please find the attached Work Plan Implementation Schedule (the "Schedule"). The status of specific tasks is presented below. This progress report also includes a summary of activities completed to evaluate conditions associated with DNAPL observed at the Site.

Liquid Permanganate

Sodium permanganate was previously delivered to the Site on May 11, 2005 and June 10, 2005. Seventy 55-gallon drums of sodium permanganate are currently stored in three 20-foot storage containers on Site.

DNAPL Recovery

Consistent with discussions with you, GeoInsight implemented a DNAPL recovery program within the containment cell. On an approximately weekly basis, the wells were gauged for the relative presence of DNAPL and recoverable solvent was removed manually using clear bailers. The DNAPL collected was transferred to a 30-gallon steel drum (satellite accumulation drum) that was placed inside a 55-gallon steel drum (secondary containment drum). The satellite accumulation drum is located inside the containment cell north of injection well G3.

Attached please find Table 1 that summarizes monitoring and DNAPL recovery events during this reporting period (July 17, 2004 to August 21, 2004) and previously reported monitoring events. DNAPL was not recovered during this reporting period. A total volume of approximately 6.52 gallons of DNAPL (from ten bailing events) has been removed from injection wells at the Site. The total volume is estimated by gauging the DNAPL storage drum. Estimated volumes listed in the attached table were approximated based upon visual observations of DNAPL thickness measured from the bailers removed from the wells.

GeoInsight will continue to monitor the presence of DNAPL in these injection wells and recover DNAPL if possible.

Hydrophobic Absorbent Socks

On June 14 and 15, 2005, the use of hydrophobic absorbent socks (designed to recover solvents) was initiated in injection wells A4, B2, B3, E3, F3, G2, G3, and H2.

On June 24, 2005, a hydrophobic absorbent sock was placed in injection well G4 after DNAPL recovery was conducted.

On July 18, and 29, 2005 and August 2, 2005, absorbent socks in injection wells G3 and G4 were removed and replaced. Both injection wells were inspected using a clear bailer, and recoverable DNAPL was not observed at that time. Absorbent socks in injection wells A4, B2, B3, E3, F3, G2, and H2 were observed to have minimal staining and therefore left in place. Frequent Site visits (i.e., one to two visits per week) are scheduled to monitor the presence of DNAPL and the capacity of the absorbent socks.

Please contact us at 978-692-1114 if you have questions or if you would like to discuss this project.

Sincerely,
GEOINSIGHT, INC.

Jared M. Sheehan
Project Environmental Scientist

Christene A. Binger
Project Manager

for Michael J. Webster, P.G., L.S.P.
Senior Associate

cc: Chub Whitten, Olympia Nominee Trust
David P. Rosenblatt, Esq., Burns & Levinson LLP

Attachments:

Table 1 - Summary of DNAPL Recovery and Absorbent Socks
Work Plan Implemenation Schedule
Summary of Site Meeting - August 3, 2005

WORK PLAN IMPLEMENTATION SCHEDULE
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

TASK DESCRIPTION	SCHEDULE
Permits Submit permit application to Massachusetts Water Resources Authority (MWRA) to drive sheet pile and continue construction activities.	Completed October 2004
Site Preparation Bridge Enhancements for Sheet Pile Crane Brush Clearing	Completed November 2004
Sheet Pile Installation	Completed January 2005
Injection Well and Trench Installation Trenching Horizontal Wells (5 days) Drilling Vertical Wells (10 days) Monitoring Well Installation Additional Injection Wells	Completed January 2005 Completed February 2005 Anticipated August 2005
Baseline Monitoring Event	Completed April 2005
Installation of Liquid Permanganate Delivery System Staging Area for Permanganate Storage Delivery of Permanganate (70 drums total)	Completed May 2005 May 11, 2005 and June 10, 2005
Up to 20 Injection Events - Dependent on Site Monitoring (anticipate 1,000 gallons of $NaMnO_4$ per event)	1st Injection: August/September 2005
Post Remediation Monitoring (quarterly for three years)	TBD

TBD = To Be Determined

SUMMARY OF SITE MEETING - AUGUST 3, 2005
Wells G&H Superfund Site
Olympia Nominee Trust Property
60 Olympia Avenue
Woburn, Massachusetts

GeoInsight Inc. (GeoInsight) prepared this attachment to the Fourteenth Progress Report to summarize information discussed with representatives of the United States Environmental Protection Agency (USEPA) during a Site meeting on August 3, 2005. The purpose of the meeting was to review in-situ chemical oxidation (ISCO) approaches for this Site and discuss the recent identification and subsequent evaluation and recovery actions associated with dense non-aqueous phase liquid (DNAPL) observed in several injection wells within the treatment cell.

Participants at the meeting included:

- Frank Gardner, USEPA
- Joseph Lemay, USEPA
- Scott G. Huling, USEPA (via cell phone conference call)
- Dave Sullivan, TRC Environmental Corporation (TRC)
- Michael J. Webster, GeoInsight
- Kevin D. Trainer, GeoInsight
- Christene A. Binger, GeoInsight
- Jared M. Sheehan, GeoInsight,
- Charles Whitten, Olympia Nominee Trust

On June 27, 2005, Mr. Huling submitted a memorandum to Mr. Lemay summarizing a technical review of the Twelfth Progress Report (dated June 17, 2005) prepared by GeoInsight. In the memorandum, Mr. Huling summarized conditions at the Site and proposed several topics for further review and discussion. GeoInsight reviewed the memorandum and generally concurs with points raised by USEPA. The following paragraphs summarize GeoInsight's evaluation of the USEPA comments, and provides an approach to initiate implementation of the injection events consistent with the approved Work Plan.

DNAPL Recovery - Additional Injection/Monitoring Wells - Lithology Review

General topics that were discussed at the Site meeting included a review of the DNAPL recovery activities completed to date. General discussions included the following topics:

- the volume of DNAPL recovered (approximately 6.5 gallons);
- the area wheres DNAPL was observed and the areas where the DNAPL was mobile and recoverable;
- the density of the monitoring network and the apparent localized occurance of the DNAPL;
- conditions within the treatment cell that impact the ability to install additional wells (it was agreed that 4-inch diameter recovery wells were preferable);

- conditions associated with DNAPL recovery versus in-situ treatment;
- evaluations of the cost-benefit associated with additional DNAPL recovery efforts; and
- how the localized DNAPL condition affected the proposed remedial approach.

During the discussions, Mr. Huling clarified a comment associated with his written memorandum; the proposed approach of injecting from the outside of the cell inward was proposed to limit possible affects of "pushing" impacted ground water (i.e., dissolved phase VOCs) into areas that were not previously impacted. It was noted that the containment cell was installed to limit the potential for such adverse impacts during injection events, and that ground water outside the cell had already been impacted by VOCs. Mr. Huling also indicated that with regard to the need to remove/recover additional DNAPL, the results of system monitoring after injection events could be used to evaluate whether the DNAPL was being adequently treated using the existing network, and that modifications and additional DNAPL recovery efforts could always be implemented at a later date (with no adverse consequences).

Prior to the meeting, to further address topics raised in Mr. Huling's memorandum, site lithology information prepared by TRC and GeoInsight was reviewed for areas within the treatment cell where DNAPL was identified. Boring logs and field screening information (i.e., soil screening with a photoionization detector (PID)) indicated that in the area of injection wells G3 and G4, the highest PID screening observations correlated with the approximate boundary between the upper sand unit and the underlying silt unit; approximately 6 to 9 feet below grade surface (BGS). In general, the identification of DNAPL in specific injection wells correlated with previously observed elevated PID screening information and baseline ground water monitoring results (dissolved phase VOC concentrations were elevated in the areas where DNAPL was observed). Review of boring logs did not identify a particular stratigraphic feature that appeared to explain the presence/distribution of DNAPL within the treatment cell (with the exception that headspace screening results and visual observation from several local borings suggested that the greatest VOC impacts occurred at the upper sand/silt interface). Additional injection wells (that are located within 15 feet of wells G3 and G4) do not contain DNAPL. The available data indicate that the occurrence of DNAPL within the treatment cell is very localized and is not a widespread condition.

In the memorandum, Mr. Huling indicated that the installation of additional wells in the area where DNAPL was observed at the greatest thickness may provide additional information as to the location and depth of potential "layers" that contain DNAPL. Additional wells may also provide another location to potentially recover additional DNAPL from the subsurface. GeoInsight intends to install up to three additional wells in the area of existing wells G3 and G4 (the area where the most recoverable DNAPL was observed). Based upon Site contstraints, the additional wells will be installed between injection well rows "F" and "G". In this area, GeoInsight believes that installation of 4-inch diameter wells is possible. The wells will be installed with 10 feet of screen with a 1-foot sump at the bottom of the well. The wells will be constructed of stainless steel to minimize potential adverse interactions (i.e., swelling that can occur with PVC materials) with DNAPL. The depth of the wells will be dependent upon subsurface observations and field screening with a photoionization detector. GeoInsight anticipates that these additional wells will be screened from 5 to 15 feet (below ground surface).

Mr. Huling raised a question regarding how ISCO injection may move vertically due to the higher density of the ISCO solution. USEPA was concerned that this condition could potentially displace DNAPL or impacted ground water to areas outside of the sheet pile containment cell. Upon further discussion with Scott Huling, he indicated that he did not believe that ISCO injection would displace DNAPL to areas outside of the cell. USEPA and GeoInsight discussed the potential to displace dissolved VOC impacted ground water outside of the cell. GeoInsight intends to add ISCO to the containment cell in "small doses" over time to limit the potential for displacement of impacted ground water. It was also observed that any impacted ground water that migrates through the containment cell walls will likely be followed by ISCO.

The potential for vertical migration of DNAPL by preferential pathways (i.e., deep monitorng wells and/or containment cell sheeting) was discussed. The presence of DNAPL was identified along an axis in the central portion of the containment cell. This observation indicates that the placement of the sheet pile containment cell is located in areas outside of the most impacted areas, and likely does not intercept DNAPL zones. The sheet pile was typically installed to 20 feet deep in an area surrounding the impacted zone and the base is located within the silt layer.

GeoInsight reviewed the total depth and construction of monitoring wells located inside of the containment cell to evaluate the potential for these structures to act as preferential pathways. Two deep monitoring wells GEO-1 and GEO-2 are approximatley 100 feet in depth and extend through the silty layer to the lower sand unit. These wells were advanced using a "telescoping" method, by which a solid steel casing was advanced through the shallow portions (16 to 18 feet BGS) of the subsurface, and then further advancement was continued through this solid casing. These two wells were completed using grout to ground surface. Two monitoring wells located inside of the cell, OL-2M and OL-3M, are approximately 33 feet in total depth. These wells are not located adjacent to areas where DNAPL was identified, and based upon laboratory analysis of ground water collected from these wells between 2002 and 2005, elevated concentrations of dissolved VOCs have not bee identifed to date.

Work Plan Approach

GeoInsight proposes to proceed with implementation of the Work Plan as initially proposed with minor modifications. During the first injection event, ISCO will be first applied to three shallow trenches in the northern portion of the containment cell. The first injection events will be completed concurrently with the installation and subsequent monitoring of the additional DNAPL monitoring wells. Upon completion of the first injection event, the monitoring wells and injection wells in the surrounding area will be monitored for color changes for approximately 2 weeks, prior to the second injection. During sebsequent events that include injection wells (as opposed to the shallow trenches), ISCO will be applied to the containment cell using an "outside-in" approach. Consistent with the approved Work Plan, the general approach for this Site is "gross" application of ISCO within a containment cell to ensure ISCO delivery to a large area that will encompass potential heterogeneities within the impacted subsurface.

TABLE 1
SUMMARY OF DNAPL RECOVERY AND ABSORBENT SOCKS
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

Date	DNAPL Wells Bailed	Estimated/Approximate Voulme Recovered	Absorbent Sock Installed/Changed
May 23, 2005	B3, E3, G2, G3, and H2	0.95 gallons	NA
May 31, 2005	A4, B3, E3, G2, G3, G4, an H2	0.82 gallons	NA
June 2, 2005	G2, G3, and G4	0.54 gallons	NA
June 10, 2005	G3 and G4	0.68 gallons	NA
June 13, 2005	G4	0.27 gallons	NA
June 14, 2005	G4	0.10 gallons	G2 and G3
June 15, 2005	G4	0.04 gallons	A4, B2, B3, E3, F3, and H2
June 17, 2005	G4	0.11 gallons	A4, B2, E3, and H2
June 22, 2005	G4	0.03 gallons	G3
June 24, 2005	G4	0.08 gallons	G3 and G4
July 29, 2005	None	NA	G3 and G4
July 6, 2005	None	NA	G3 and G4
July 13, 2005	None	NA	G3 and G4
July 18, 2005	None	NA	G3 and G4
July 29, 2005	None	NA	G3 and G4
August 2, 2005	None	NA	G3 and G4